Biodiversity Data Journal 3: e6604
doi: 10.3897/BDJ.3.e6604

Taxonomic Paper

Birds from the Azores: An updated list with some comments on species distribution

Luís MD Barcelos‡, Pedro R Rodrigues§, Joël Bried|, Enésima P Mendonça‡, Rosalina Gabriel‡, Paulo Alexandre Vieira Borges‡

‡ CE3C – Centre for Ecology, Evolution and Environmental Changes / Azorean Biodiversity Group and Universidade dos Açores, Azores, Portugal
§ Universidade dos Açores, Ponta Delgada, Portugal
| na, Biarritz, France

Corresponding author: Luís MD Barcelos (ldbarcelos@gmail.com)

Academic editor: Pavel Stoev

Received: 16 Sep 2015 | Accepted: 09 Nov 2015 | Published: 20 Nov 2015

Citation: Barcelos L, Rodrigues P, Bried J, Mendonça E, Gabriel R, Borges P (2015) Birds from the Azores: An updated list with some comments on species distribution. Biodiversity Data Journal 3: e6604. doi: 10.3897/BDJ.3.e6604

Abstract

Background

An updated checklist of the Birds of the Azores is presented based on information compiled from Rodrigues et al. (2010) and from the websites, Azores Bird Club. (2014), Aves dos Açores (2014), Azores Bird Sightings (2014) and Vittery (2014), since 2010.

New information

The checklist has a total of 414 species, including 38 new species.

Almost half of the species and subspecies that occur in the Azores have a Palearctic origin, the remaining ones being essentialy Nearctic and Holarctic species. São Miguel is the island with the highest number of bird species, followed by Terceira, Corvo and Flores islands.

© Barcelos L et al. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Keywords

Azores, birds checklist, species distribution

Introduction

Birds (Vertebrata: Aves) are some of the most iconic animals. They play important roles in the ecosystem, and since they are abundant and diverse in most urban and rural areas, humans have established a good long-lasting relationship with them (e.g., birdwatching, photography). However, amongst the ca 10.000 bird species which have been living on Earth since the appearance of modern humans, many species were regionally lost or extinct, or are endangered, especially on islands (Sax et al. 2002, Elphick et al. 2010, Rando et al. 2013, Alcover et al. 2015). Updating a list of birds from remote oceanic islands represents an important step towards an improved knowledge of colonization mechanisms and migratory patterns by animals and a contribution towards the conservation and management of insular taxa and their natural habitats.

The Azores Archipelago is located in the North Atlantic Ocean, between 36°55' and 39° 43' N, and 24°46' and 31°16' W, about 1500 km from mainland Europe and 1900 km from North America (Fig. 1). The Azores is a volcanic oceanic archipelago consisting of nine islands and several islets of recent volcanic origin (0.25 to 8.12 My old), which are spread over >600 km along a northwest-southeast transect (França et al. 2003). The oceanic distribution of these islands and, as a consequence, their relative positions, has led to the formation of the following groups: (i), a western group, comprising the islands of Flores and Corvo; (ii), a central group, with the islands of Faial, Pico, São Jorge, Terceira and Graciosa and (iii), an eastern group, made up of the islands of São Miguel and Santa Maria.

Due to its remoteness, the Azores archipelago was discovered and humans settled only at the beginning of the fifteenth century. The settlers described the islands as covered by dense native vegetation, with countless birds, especially seabirds (Frutuoso 2005a, Frutuoso 2005b, Frutuoso 2005c). Until then the archipelago was definitely a bird paradise, not only for seabirds that could use the vast coastal cliffs of the islands and islets to breed, but also for terrestrial birds which were widespread in the lush Azorean forests (Rodrigues and Cunha 2012). After human colonization started in 1439, several bird species suffered a sudden decrease in population size due to their use as food and oil source for human consumption, as well as to the introduction of predators and the destruction of their habitat (Rodrigues et al. 2010). As a consequence of the human impact, six flightless bird species are confirmed to be extinct in the Azores, namely one *Otus* species (Rando et al. 2013) and five *Rallus* species (Alcover et al. 2015), but recent findings indicate that many more will be described soon (Josep Alcover and Juan Rando, pers. comm.).

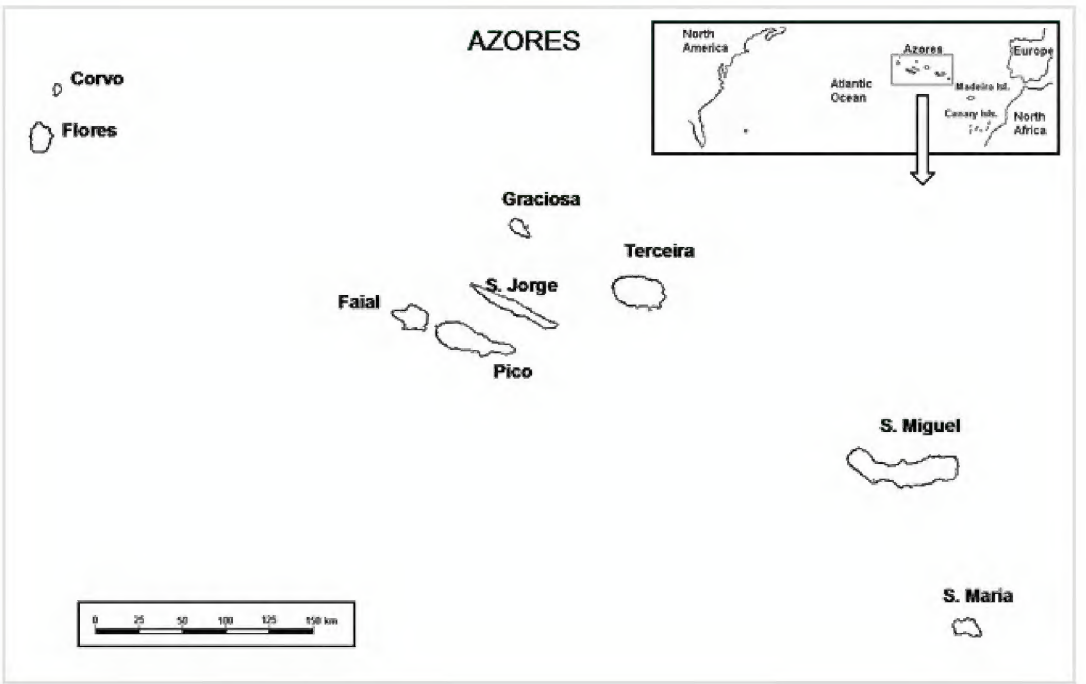

Figure 1.

Map of Azores islands, Portugal (Modified from Amorim 2005).

Despite the reduction of several bird populations, the Azores remain of great interest for ornithologists and are considered as one of the most popular destinations for European birdwatchers (Pereira 2010, Rodrigues and Michielsen 2010), all the more since they hold two endemic species: the Azores Bullfinch (*Pyrrhula murina* Godman, 1866) (Fig. 2), and Monteiro's Storm Petrel (*Oceanodroma monteiroi* Bolton et al. 2008) (Fig. 3), and 11 endemic subspecies. Besides, the Azores archipelago displays colonies of several seabird species of great importance in the European context, and it is also possible to observe pelagic birds and a large variety of migratory birds, some of which are very rare Nearctic vagrants to the western Palearctic (Rodrigues and Michielsen 2010, Barreiros et al. 2014).

Figure 2.

Azores Bullfinch (*Pyrrhula murina* Godman, 1866). Photo by PAV Borges (2008).

Figure 3.

Monteiro's Storm Petrel (*Oceanodroma monteiroi* Bolton et al., 2008). Photo by PH Silva (2014).

Rodrigues and Cunha (2011) resumed the ornithological history of the Azores, from the beginning of human settlement until recently, and the latest checklist of birds from the Azores archipelago was published in 2010 by Rodrigues et al., as part of the complete list of Azorean biota published by Borges et al. (2010). This list was based on an exhaustive review of the published literature (e.g., Le Grand 1993, Monteiro et al. 1996, Monteiro et al. 1999, Elias et al. 2003, Elias et al. 2004, Elias et al. 2005, Elias et al. 2006, Bried et al. 2007, Jara et al. 2007, Jara et al. 2008, Bolton et al. 2008, Imber 2008, Vittery 2014) but also on unpublished data following Rodebrand (2010) and Rodebrand S. & The Birding Azores Team (2010). This checklist totalled 384 species, distributed between three categories: breeding, non-breeding and potentially breeding (species reported as introduced and/or escapes from captivity and for which suitable nesting conditions exist in the Azores, but whose numbers are insufficient to allow the maintenance of self-sustaining populations in this archipelago). During the last years, and due to the growing interest of birdwatchers in the Azores avifauna, several dedicated websites have been developed, such as ABC – Azores Bird Club. (2014) (formerly Birding Azores) (http://www.birdingazores.com/), AdA – Aves dos Açores (2014) (http://azores.avesdeportugal.info/) and ABS – Azores Bird Sightings (2014) (http://azoresbs.weebly.com/ from January 2012 to February 2014 and http://azoresbirdsightings.blogspot.co.uk/ from August 2014 onward). These websites are presently used by birdwatchers as a tool to register new information about species occurrence and distribution in the Azores.

The present paper updates the previous checklist (Rodrigues et al. 2010), with respect to species distribution within the archipelago and also by including new species to the archipelago. The updating is based on the sightings reports available on the websites mentioned above. We also perform a nomenclatural review of the Orders, Families, Species and Subspecies, following the 2014 IOC World Bird list (v 4.3) (Gill and Donsker 2015) published by the International Ornithologists' Union (available at http://www.

worldbirdnames.org/). Some additional notes on the distribution of the different species among the islands and their biogeographic origin are presented.

Materials and methods

Based on Rodrigues et al. (2010), we completed a full taxonomic revision using the IOC Bird list (Gill and Donsker 2015) as a reference to identify the changes which occurred in the taxonomic hierarchy and synonymies. Then, we updated the list of the species recorded in the Azores archipelago until the end of 2014, as well as their distribution within the archipelago. The species newly reported for the Azores are signalled as NSR (New Species Record). Most of these NSRs were reported after 2010, but there are also a few missing records prior to this date. The species previously reported by Rodrigues et al. (2010), but whose distribution has changed since then, are signalled with an asterisk (*). All the new information about species occurrence and distribution was compiled based on the birdwatching websites mentioned earlier, and relies on a large number of birdwatcher contributions.

In order to make the data easier to consult, the main checklist (Checklist 1) includes all the breeding and non-breeding species together, including the escapes and/or introduced species which already have feral populations in the Azores. All the other escapes and/or introduced species were excluded from the main list, and can be consulted in Checklist 2.

We considered the species with five our less records, in Azores, as Rare Species. This species are presented in a table (Suppl. material 3) with the number of sightings, number of individual recorded, and some notes.

Besides the taxonomical information and the distribution among the Azorean islands (Fig. 4), we include information on: i) biogeographical origin, based on (Lomolino et al. 2010); ii) breeding status; iii) islands where breeding has been documented and iv) current protection status of the species according to the Azorean Decree DLR n.° 15/2012/A Governo dos Açores (2012) from 2nd April 2012, which transposes the European Directives (Birds), Conventions (Bern and OSPAR), Agreements (AEWA) and specific regional protection statuses (TOP100) to the regional legislation. The protection statuses are represented by a letter or code (corresponding to the directive, convention or law) and by a Roman numeral (corresponding to the annex) as follows: P – Priority species for conservation; A – Birds directive; B – Bern Convention; AEWA – African-Eurasian Waterbird Agreement; O – OSPAR Convention; T100 – 100 prioritary threatened species for management purposes in the European biogeographical region of Macaronesia (Martín et al. 2008); (X) – New species disaggregated from Madeiran Storm-petrel *Oceanodroma castro* (Harcourt, 1851) and which is known to breed only on Praia and Baixo islets (Graciosa Island).

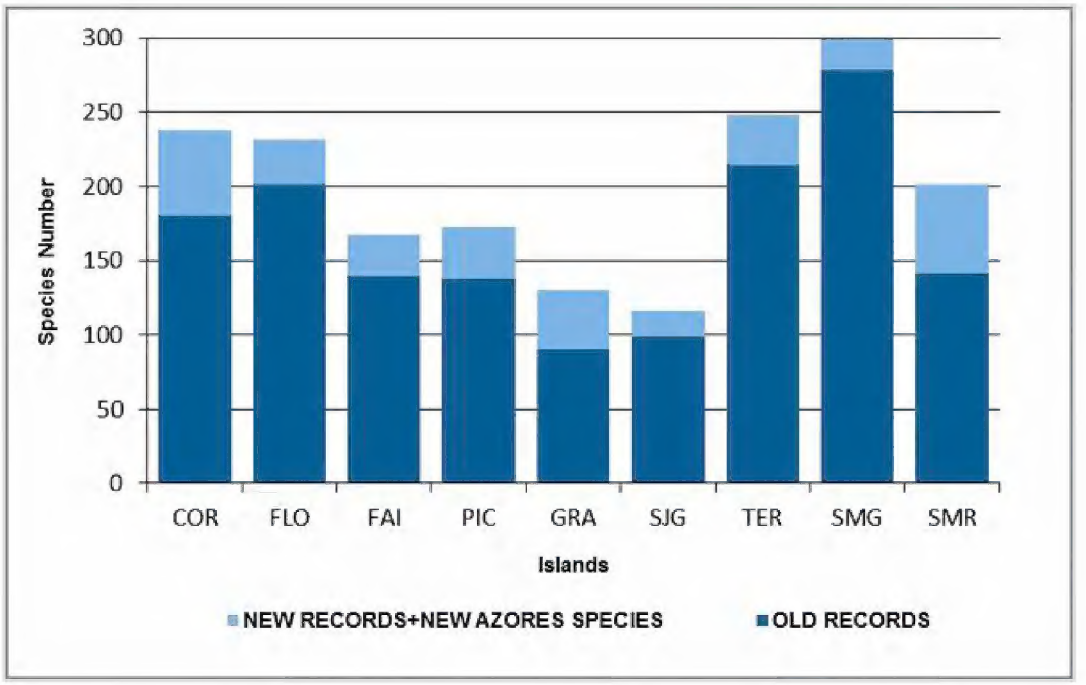

Figure 4.

Global species richness on the nine Azorean islands (COR= Corvo; FLO = Flores; FAI = Faial; PIC = Pico; GRA =Graciosa; SJG = São Jorge; TER = Terceira; SMG = São Miguel; SMR = Santa Maria) (Suppl. material 1).

List of the non-breeding and breeding species from Azores

Phylum Chordata

Subphylum Vertebrata

Class Aves

Order Anseriformes

Family Anatidae

***Aix sponsa* (Linnaeus, 1758)**

Native status: Nearctic

Distribution: COR; FLO; GRA; TER*; SMG

Notes: Occasional Migrant.

***Anas acuta* Linnaeus, 1758**

Native status: Holarctic

Conservation status: A-IIA; AEWA

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG; SMR*

Notes: Regular Wintering.

Anas americana Gmelin, 1789

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG; SMR*

Notes: Regular Wintering.

Anas carolinensis Gmelin, 1789

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR*

Notes: Regular Wintering.

Anas clypeata Linnaeus, 1758

Native status: Holarctic

Conservation status: A-IIA; AEWA

Distribution: COR*; FLO; FAI; TER; SMG; SMR*

Notes: Regular Wintering.

Anas crecca Linnaeus, 1758

Native status: Palearctic

Conservation status: A-IIA; AEWA

Distribution: COR; FLO; FAI; PIC; GRA*; SJG; TER; SMG; SMR

Notes: Regular Wintering.

Anas discors Linnaeus, 1766

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Wintering.

Anas penelope Linnaeus, 1758

Native status: Palearctic

Conservation status: A-IIA; AEWA

Distribution: COR; FLO; FAI*; PIC; SJG*; TER; SMG; SMR

Notes: Regular Wintering.

Anas platyrhynchos platyrhynchos Linnaeus, 1758

Native status: Holarctic

Conservation status: A-IIA; AEWA

Distribution: COR (Occasional Breeder); FLO (Occasional Breeder); FAI; PIC; GRA*; SJG; TER; SMG (Occasional Breeder); SMR

Notes: Regular Wintering.

Anas querquedula Linnaeus, 1758

Native status: Palearctic

Conservation status: A-IIA; AEWA

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR*

Notes: Occasional Migrant.

Anas rubripes Brewster, 1902

Native status: Nearctic

Distribution: COR; FLO (Occasional Breeder); TER; SMG

Notes: Regular Wintering.

Anas strepera Linnaeus, 1758

Native status: Holarctic

Conservation status: A-IIA; AEWA

Distribution: COR; FLO; FAI; TER; SMG

Notes: Occasional Wintering.

Anser albifrons (Scopoli, 1769)

Native status: Holarctic

Distribution: PIC*; TER; SMG; SMR

Notes: Occasional Wintering.

Anser anser (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; TER*; SMG; SMR

Notes: Occasional Wintering.

Anser brachyrhynchus Baillon, 1834

Native status: Palearctic

Distribution: FLO; PIC*; TER; SMG; SMR

Notes: Occasional Wintering.

Anser fabalis (Latham, 1787)

Native status: Palearctic

Distribution: COR; TER

Notes: Occasional Wintering.

Aythya affinis (Eyton, 1838)

Native status: Nearctic

Distribution: FLO; FAI; PIC*; TER; SMG; SMR*

Notes: Occasional Wintering.

Aythya collaris (Donovan, 1809)

Native status: Nearctic

Conservation status: A

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG; SMR

Notes: Regular Wintering.

Aythya ferina (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; TER; SMG

Notes: Occasional Wintering.

Aythya fuligula (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; SJG*; TER; SMG; SMR

Notes: Regular Wintering.

Aythya marila (Linnaeus, 1761)

Native status: Holarctic

Distribution: COR; FLO; FAI*; PIC*; SJG*; TER; SMG; SMR

Notes: Occasional Wintering.

Aythya nyroca (Güldenstädt, 1770)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Wintering.

Branta bernicla hrota (Müller, 1776)

Native status: Holarctic

Distribution: COR; FLO; TER; SMG

Notes: Occasional Wintering.

Branta canadensis (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR*; FAI*; PIC*; GRA*; SJG; TER; SMG; SMR*

Notes: Occasional Wintering.

Branta leucopsis (Bechstein, 1803)

Native status: Palearctic

Distribution: COR*; FLO; SJG; SMG

Notes: Occasional Wintering.

Bucephala albeola (Linnaeus, 1758)

Native status: Nearctic

Distribution: PIC; GRA; TER

Notes: Occasional Migrant.

Bucephala clangula (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR*; SJG; TER; SMG

Notes: Occasional Migrant.

Chen caerulescens (Linnaeus, 1758)

Native status: Nearctic

Distribution: TER; SMG

Notes: Occasional Wintering.

Clangula hyemalis (Linnaeus, 1758)

Native status: Holarctic

Distribution: FAI*; PIC*; SJG*; TER; SMG

Notes: Occasional Migrant.

Cygnus olor (Gmelin, 1789)

Native status: Palearctic

Distribution: FAI; PIC; GRA; TER; SMG

Notes: Occasional Migrant.

Dendrocygna bicolor (Vieillot, 1816)

Native status: Afro-tropical

Distribution: SMG

Notes: Occasional Migrant.

Lophodytes cucullatus (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO; SMG

Notes: Occasional Wintering.

Melanitta nigra (Linnaeus, 1758)

Native status: Holarctic

Distribution: FLO; FAI; TER; SMG

Notes: Occasional Migrant.

Melanitta perspicillata (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO; FAI; SJG; TER; SMG; SMR*

Notes: Occasional Migrant.

Mergus merganser Linnaeus, 1758

Native status: Holarctic

Distribution: GRA; TER*

Notes: Occasional Wintering.

Mergus serrator Linnaeus, 1758

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR

Notes: Occasional Wintering.

Oxyura jamaicensis (Gmelin, 1789)

Native status: Nearctic

Distribution: FLO; TER

Notes: Occasional Migrant.

Somateria mollissima (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; SMG

Notes: Occasional Wintering.

Somateria spectabilis (Linnaeus, 1758)

Native status: Holarctic

Distribution: SMG

Notes: Occasional Wintering.

Tadorna ferruginea (Pallas, 1764)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Tadorna tadorna (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO; TER*; SMG

Notes: Occasional Migrant; Occasional Wintering.

Order Galliformes

Family Phasianidae

Alectoris rufa hispanica (Seoane, 1894)

Native status: Palearctic

Conservation status: A-IIA

Distribution: PIC (Breeder); GRA*; TER (Breeder); SMG*; SMR (Breeder)

Notes: Introduced.

Coturnix coturnix conturbans Hartert, 1917

Native status: Palearctic

Conservation status: A-IIB

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Native.

Order Gaviiformes

Family Gaviidae

Gavia arctica (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMR

Notes: Occasional Migrant. New Azores Record

Gavia immer (Brünnich, 1764)

Native status: Holarctic

Distribution: COR*; FLO; FAI; PIC; GRA; TER; SMG; SMR

Notes: Regular Wintering.

Gavia stellata (Pontoppidan, 1763)

Native status: Holarctic

Distribution: GRA; SMG

Notes: Occasional Wintering.

Order Procellariiformes

Family Diomedeidae

Thalassarche melanophris (Temminck, 1828)

Native status: Sub-Antarctic

Distribution: FAI; PIC

Notes: Occasional Migrant.

Family Procellariidae

Bulweria bulwerii (Jardine & Selby, 1828)

Native status: Pantropical

Conservation status: P; A-I; B-II; T100

Distribution: FLO*; FAI*; PIC*; GRA*; SMG*; SMR (Breeder)

Notes: Native.

Calonectris borealis (Cory, 1881)

Native status: Palearctic

Conservation status: P; A-I; B-II; T100

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Native.

Fulmarus glacialis (Linnaeus, 1761)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA*; TER; SMG; SMR

Notes: Occasional Migrant.

Pterodroma arminjoniana (Giglioli & Salvadori, 1868)

Native status: Pantropical

Distribution: COR; FLO*; FAI; PIC; GRA*

Notes: Occasional Migrant.

Pterodroma cahow (Nichols & Mowbray, 1916)

Native status: Nearctic

Distribution: SMR

Notes: Occasional and Non-Breeding.

Pterodroma deserta Mathews, 1934

Native status: Palearctic

Distribution: GRA

Notes: Occasional Migrant. New Azores Record

Pterodroma sp. (deserta or feae) (Mathews, 1934) (Salvadori, 1899)

Native status: Palearctic

Conservation status: P; A-I; B-II

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Pterodroma hasitata (Kuhl, 1820)

Native status: Nearctic

Distribution: FAI*; PIC; GRA

Notes: Occasional Migrant.

Pterodroma madeira Mathews, 1934

Native status: Palearctic

Distribution: GRA

Notes: Occasional Migrant. New Azores Record

Pterodroma neglecta (Schlegel, 1863)

Native status: Pantropical

Distribution: FAI

Notes: Occasional Migrant.

Puffinus baroli (Bonaparte, 1857)

Native status: Palearctic

Conservation status: P; A-I; B-II; O; T100

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER*; SMG (Breeder); SMR (Breeder)

Notes: Macaronesian Endemic.

Puffinus gravis (O'Reilly, 1818)

Native status: Southern Atlantic

Conservation status: A

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Puffinus griseus (Gmelin, 1789)

Native status: Southern hemisphere

Conservation status: A

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Puffinus mauretanicus Lowe, 1921

Native status: Palearctic

Distribution: FLO; FAI; SMG

Notes: Occasional Migrant.

Puffinus puffinus (Brünnich, 1764)

Native status: Holarctic

Conservation status: P; A; B-II

Distribution: COR (Breeder); FLO (Breeder); FAI*; PIC*; GRA*; SJG*; TER*; SMG (Breeder); SMR (Breeder)

Notes: Native.

Family Hydrobatidae

Oceanites oceanicus (Kuhl, 1820)

Native status: Sub-Antarctic and Antarctic

Distribution: COR*; FLO; FAI*; PIC; GRA*; TER*; SMG; SMR*

Notes: Regular Migrant.

Oceanodroma castro (Harcourt, 1851)

Native status: Pantropical

Conservation status: P; A-I; T100

Distribution: COR*; GRA (Breeder); SJG*; SMG*; SMR (Breeder)

Notes: Native.

Oceanodroma leucorhoa (Vieillot, 1818)

Native status: Holarctic

Distribution: COR*; FLO; FAI; PIC; GRA; TER; SMG; SMR

Notes: Regular Migrant.

Oceanodroma monorhis (Swinhoe, 1867)

Native status: Sub-tropical Pacific

Distribution: GRA

Notes: Occasional Migrant. New Azores Record

Oceanodroma monteiroi Bolton et al., 2008

Native status: Palearctic

Conservation status: P; A-I (x)

Distribution: COR*; GRA (Breeder); SJG*

Notes: Azores Endemic.

Pelagodroma marina (Latham, 1790)

Native status: Palearctic

Conservation status: A

Distribution: FLO; FAI*; PIC; SMR

Notes: Occasional Migrant.

Order Podicipediformes

Family Podicipedidae

Podiceps auritus (Linnaeus, 1758)

Native status: Holarctic

Distribution: FLO; TER; SMG; SMR*

Notes: Occasional Wintering.

Podiceps cristatus (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Wintering.

Podiceps grisegena (Boddaert, 1783)

Native status: Holarctic

Distribution: FAI

Notes: Occasional Wintering. New Azores Record

Podiceps nigricollis Brehm, 1831

Native status: Holarctic

Distribution: FAI; TER; SMG

Notes: Occasional Wintering.

Podilymbus podiceps (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO; PIC; TER; SMG; SMR*

Notes: Occasional Wintering.

Tachybaptus ruficollis (Pallas, 1764)

Native status: Palearctic

Distribution: FLO; TER*; SMG

Notes: Occasional Wintering.

Order Phoenicopteriformes

Family Phoenicopteridae

Phoenicopterus roseus Pallas, 1811

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Order Phaethontiformes

Family Phaethontidae

Phaethon aethereus mesonauta Peters, 1930

Native status: Pantropical

Conservation status: A; AEWA

Distribution: FAI; PIC; GRA (Occasional Breeder); SMG*

Notes: Occasional Migrant.

Phaethon lepturus Daudin, 1802

Native status: Pantropical

Distribution: COR*; FLO; FAI*; SJG*; TER*; SMG*

Notes: Occasional Migrant.

Order Ciconiiformes

Family Ciconiidae

Ciconia ciconia (Linnaeus, 1758)

Native status: Palearctic

Distribution: PIC*; TER

Notes: Occasional Migrant.

Ciconia nigra (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Order Pelecaniformes

Family Threskiornithidae

Geronticus eremita (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Platalea leucorodia Linnaeus, 1758

Native status: Palearctic

Distribution: COR; FLO; PIC; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Plegadis falcinellus (Linnaeus, 1766)

Native status: Holarctic

Distribution: COR*; FLO*; FAI*; PIC*; GRA*; SJG*; TER; SMG; SMR

Notes: Occasional Migrant.

Family Ardeidae

Ardea alba alba Linnaeus, 1758

Native status: Palearctic

Distribution: SMR

Notes: Occasional Migrant.

Ardea alba egretta Gmelin, 1789

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA*; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Ardea cinerea Linnaeus, 1758

Native status: Palearctic

Conservation status: A; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Ardea herodias Linnaeus, 1758

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG

Notes: Occasional Migrant; Occasional Wintering.

Ardea purpurea Linnaeus, 1766

Native status: Palearctic

Distribution: COR*; PIC*; TER; SMG; SMR*

Notes: Occasional Migrant.

Ardeola ralloides (Scopoli, 1769)

Native status: Palearctic

Distribution: COR*; FAI*; PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Botaurus lentiginosus (Rackett, 1813)

Native status: Nearctic

Distribution: COR*; FLO; PIC*; GRA*; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Botaurus stellaris (Linnaeus, 1758)

Native status: Palearctic

Distribution: TER; SMG

Notes: Occasional Migrant.

Bubulcus ibis (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Wintering.

Butorides virescens (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO; PIC; SJG; SMG

Notes: Occasional Migrant.

Egretta caerulea (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO; PIC; GRA*; SJG; SMG*

Notes: Occasional Migrant.

Egretta garzetta (Linnaeus, 1766)

Native status: Palearctic

Conservation status: P; A-I; B-II; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Egretta gularis (Bosc, 1792)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Egretta thula (Molina, 1782)

Native status: Nearctic

Distribution: FLO; FAI; PIC*; GRA*; SJG; TER; SMG

Notes: Occasional Migrant; Occasional Wintering.

Egretta tricolor (Müller, 1776)

Native status: Nearctic

Distribution: PIC; SMG

Notes: Occasional Migrant.

Ixobrychus exilis (Gmelin, 1789)

Native status: Nearctic

Distribution: TER; SMG; SMR

Notes: Occasional Migrant.

Ixobrychus minutus (Linnaeus, 1766)

Native status: Palearctic

Distribution: FLO; PIC; GRA; SJG; TER; SMG

Notes: Occasional Migrant.

Nyctanassa violacea (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; PIC; TER; SMR

Notes: Occasional Wintering. New Azores Record

Nycticorax nycticorax (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; TER; SMG; SMR

Notes: Occasional Migrant.

Order Suliformes

Family Fregatidae

Fregata magnificens Mathews, 1914

Native status: Sub-tropical and Tropical Atlantic; Tropical-eastern Pacific

Distribution: COR*; FLO*; PIC*; TER*; SMG

Notes: Occasional Migrant.

Family Sulidae

Morus bassanus (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Sula dactylatra Lesson, 1831

Native status: Pantropical

Distribution: FAI; GRA*

Notes: Occasional Migrant.

Sula leucogaster (Boddaert, 1783)

Native status: Pantropical

Distribution: GRA*; SMG

Notes: Occasional Migrant; Occasional Wintering.

Family Phalacrocoracidae

Phalacrocorax auritus (Lesson, 1831)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA*; TER; SMG; SMR

Notes: Occasional Wintering.

Phalacrocorax carbo (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; PIC*; GRA*; TER; SMG; SMR

Notes: Occasional Wintering.

Order Accipitriformes

Family Pandiondidae

Pandion haliaetus (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR*; FLO; FAI; PIC; TER; SMG

Notes: Occasional Migrant.

Family Accipitridae

Buteo buteo rothschildi (Swann, 1919)

Native status: Palearctic

Conservation status: P; A; B-II; T100

Distribution: COR; FLO; FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Buteo buteo buteo (Linnaeus, 1758)

Native status: Palearctic

Distribution: GRA; TER

Notes: Occasional Migrant. New Azores Record

Buteo lagopus (Pontoppidan, 1763)

Native status: Holarctic

Distribution: COR; FAI; PIC*; GRA*; TER

Notes: Occasional Migrant.

Circus hudsonius (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR*; FLO; TER*

Notes: Occasional Migrant.

Circus aeruginosus (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO; TER; SMG; SMR*

Notes: Occasional Migrant.

Circus cyaneus (Linnaeus, 1766)

Native status: Palearctic

Distribution: COR; FLO; PIC*; TER; SMR

Notes: Occasional Migrant; Occasional Wintering.

Circus pygargus (Linnaeus, 1758)

Native status: Palearctic

Distribution: TER

Notes: Occasional Migrant.

Elanoides forficatus (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO; SMG

Notes: Occasional Migrant.

Milvus migrans (Boddaert, 1783)

Native status: Palearctic

Distribution: GRA; SMR

Notes: Occasional Migrant. New Azores Record

Milvus milvus (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; SMG

Notes: Occasional Migrant.

Neophron percnopterus (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Order Gruiformes

Family Rallidae

Crex crex (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FAI; TER; SMG; SMR

Notes: Occasional Migrant.

Fulica americana Gmelin, 1789

Native status: Nearctic

Distribution: FLO; FAI*; PIC; GRA*; TER; SMG

Notes: Occasional Wintering.

Fulica atra atra Linnaeus, 1758

Native status: Palearctic

Conservation status: A-IIA; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER (Breeder); SMG (Breeder); SMR

Notes: Regular Wintering.

Gallinula chloropus chloropus (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A-IIB; AEWA

Distribution: COR*; FLO (Breeder); FAI*; PIC*; GRA*; SJG*; TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Native.

Porphyrio alleni Thomson, 1842

Native status: Palearctic

Distribution: GRA*; TER*; SMG; SMR

Notes: Occasional Migrant.

Porphyrio martinicus (Linnaeus, 1766)

Native status: Nearctic

Distribution: FLO; FAI*; GRA*; SMG

Notes: Occasional Migrant; Occasional Wintering.

Porzana carolina (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO*; SJG; SMR

Notes: Occasional Migrant.

Porzana parva (Scopoli, 1769)

Native status: Palearctic

Distribution: FAI; SMG

Notes: Occasional Migrant.

Porzana porzana (Linnaeus, 1766)

Native status: Palearctic

Distribution: COR; FLO*; PIC*; TER; SMG; SMR

Notes: Occasional Migrant.

Porzana pusilla (Pallas, 1776)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Rallus aquaticus Linnaeus, 1758

Native status: Palearctic

Distribution: TER; SMG

Notes: Occasional Migrant.

Family Gruidae

Grus canadensis (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO

Notes: Occasional Migrant.

Grus grus (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Order Charadriiformes

Family Burhinidae

Burhinus oedicnemus (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Family Haematopodidae

Haematopus ostralegus Linnaeus, 1758

Native status: Palearctic

Distribution: FAI; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Family Recurvirostridae

Himantopus himantopus (Linnaeus, 1758)

Native status: Palearctic

Distribution: PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Recurvirostra avosetta Linnaeus, 1758

Native status: Palearctic

Distribution: SMG; SMR*

Notes: Occasional Migrant.

Family Charadriidae

Charadrius alexandrinus Linnaeus, 1758

Native status: Palearctic

Conservation status: P; A-I; B-II; AEWA

Distribution: COR; FLO; FAI; PIC; GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Regular Wintering.

Charadrius asiaticus Pallas, 1773

Native status: Palearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Charadrius dubius Scopoli, 1786

Native status: Palearctic

Conservation status: A; B-II; AEWA

Distribution: COR; FLO; TER; SMG; SMR*

Notes: Occasional Migrant.

Charadrius hiaticula Linnaeus, 1758

Native status: Holarctic

Conservation status: A; B-II; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Charadrius morinellus Linnaeus, 1758

Native status: Palearctic

Distribution: COR; FAI; SMR

Notes: Occasional Migrant.

Charadrius semipalmatus Bonaparte, 1825

Native status: Nearctic

Conservation status: A

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Charadrius vociferus Linnaeus, 1758

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC*; TER; SMG; SMR* (Occasional Breeder)

Notes: Occasional Migrant.

Pluvialis apricaria (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR*; FLO; FAI; GRA; TER; SMG; SMR

Notes: Occasional Migrant.

Pluvialis dominica (Müller, 1776)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Pluvialis fulva (Gmelin, 1789)

Native status: Holarctic

Distribution: TER; SMR*

Notes: Occasional Migrant.

Pluvialis squatarola (Linnaeus, 1758)

Native status: Holarctic

Conservation status: A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Vanellus vanellus (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Occasional Wintering.

Family Scolopacidae

Actitis hypoleucos (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Actitis macularius (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Arenaria interpres (Linnaeus, 1758)

Native status: Holarctic

Conservation status: A; B-II; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Bartramia longicauda (Bechstein, 1812)

Native status: Nearctic

Distribution: COR; FLO; SMG

Notes: Occasional Migrant.

Calidris acuminata (Horsfield, 1821)

Native status: Nearctic

Distribution: TER

Notes: Occasional Migrant.

Calidris alba (Pallas, 1764)

Native status: Holarctic

Conservation status: A; B-II; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Calidris alpina (Linnaeus, 1758)

Native status: Holarctic

Conservation status: P; A-I; B-II; AEWA

Distribution: FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Calidris bairdii (Coues, 1861)

Native status: Holarctic

Distribution: FLO*; SJG; TER; SMG

Notes: Occasional Migrant.

Calidris canutus (Linnaeus, 1758)

Native status: Holarctic

Conservation status: A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Calidris ferruginea (Pontoppidan, 1763)

Native status: Palearctic

Conservation status: A; B-II; AEWA

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Calidris fuscicollis (Vieillot, 1819)

Native status: Nearctic

Conservation status: A

Distribution: COR; FLO; FAI; PIC; GRA*; SJG; TER; SMG; SMR*

Notes: Regular Migrante; Occasional Wintering.

Calidris himantopus (Bonaparte, 1826)

Native status: Nearctic

Distribution: PIC; SJG*; SMG

Notes: Occasional Migrant.

Calidris maritima (Brünnich, 1764)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; TER; SMG

Notes: Occasional Migrant; Occasional Wintering.

Calidris mauri (Cabanis, 1857)

Native status: Nearctic

Distribution: COR*; PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Calidris melanotos (Vieillot, 1819)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Calidris minuta (Leisler, 1812)

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Calidris minutilla (Vieillot, 1819)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG

Notes: Occasional Migrant; Occasional Wintering.

Calidris pusilla (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA*; SJG; TER; SMG; SMR*

Notes: Regular Migrante; Occasional Wintering.

Calidris temminckii (Leisler, 1812)

Native status: Palearctic

Distribution: TER; SMG*

Notes: Occasional Migrant.

Gallinago delicata (Ord, 1825)

Native status: Nearctic

Distribution: COR; FLO; FAI*; PIC; GRA; SJG; TER; SMG; SMR*

Notes: Regular Migrant.

Gallinago gallinago gallinago (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A-IIA; AEWA

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA*; SJG (Breeder); TER (Breeder); SMG (Breeder); SMR*

Notes: Native.

Gallinago media (Latham, 1787)

Native status: Palearctic

Distribution: SMR

Notes: Occasional Migrant. New Azores Record

Limnodromus griseus (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; FLO; PIC; SJG; TER; SMG; SMR*

Notes: Occasional Migrant; Occasional Wintering.

Limnodromus scolopaceus (Say, 1822)

Native status: Nearctic

Distribution: COR; TER; SMG; SMR*

Notes: Occasional Migrant; Occasional Wintering.

Limosa haemastica (Linnaeus, 1758)

Native status: Nearctic

Distribution: TER

Notes: Occasional Migrant.

Limosa lapponica (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO*; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Limosa limosa (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A-IIB; AEWA

Distribution: SJG; TER; SMG

Notes: Regular Migrant.

Lymnocryptes minimus (Brünnich, 1764)

Native status: Palearctic

Distribution: COR; FAI; TER; SMG; SMR

Notes: Occasional Migrant.

Numenius arquata (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO*; PIC; GRA; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Numenius phaeopus hudsonicus Latham, 1790

Native status: Nearctic

Distribution: COR; FLO; FAI*; PIC*; GRA; SJG*; TER; SMG; SMR*

Notes: Occasional Migrant.

Numenius phaeopus phaeopus (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Numenius tenuirostris Vieillot, 1817

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Phalaropus fulicarius (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Phalaropus lobatus (Linnaeus, 1758)

Native status: Holarctic

Distribution: TER*; SMG

Notes: Occasional Migrant.

Phalaropus tricolor (Vieillot, 1819)

Native status: Nearctic

Distribution: COR; PIC; TER; SMG

Notes: Occasional Migrant.

Philomachus pugnax (Linnaeus, 1758)

Native status: Palearctic

Conservation status: P; A-I;A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA*; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Scolopax rusticola Linnaeus, 1758

Native status: Palearctic

Conservation status: A-IIA; AEWA

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA*; SJG (Breeder); TER (Breeder); SMG (Breeder); SMR*

Notes: Native.

Tringa erythropus (Pallas, 1764)

Native status: Palearctic

Distribution: FAI; TER; SMG

Notes: Occasional Migrant.

Tringa flavipes (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR*

Notes: Regular Migrant.

Tringa glareola Linnaeus, 1758

Native status: Palearctic

Distribution: FLO; PIC*; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Tringa melanoleuca (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; FLO; PIC; TER; SMG

Notes: Occasional Migrant.

Tringa nebularia (Gunnerus, 1767)

Native status: Palearctic

Conservation status: A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Tringa ochropus Linnaeus, 1758

Native status: Palearctic

Distribution: FLO; PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Tringa semipalmata (Gmelin, 1789)

Native status: Nearctic

Distribution: SJG; TER; SMG

Notes: Occasional Migrant.

Tringa solitaria Wilson, 1813

Native status: Nearctic

Distribution: COR*; FLO; GRA*; TER; SMG; SMR

Notes: Occasional Migrant.

Tringa stagnatilis (Bechstein, 1803)

Native status: Palearctic

Distribution: FLO; PIC*; TER; SMG; SMR

Notes: Occasional Migrant.

Tringa totanus (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO; SJG; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Tryngites subruficollis (Vieillot, 1819)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; TER; SMG; SMR*

Notes: Occasional Migrant.

Xenus cinereus (Güldenstädt, 1775)

Native status: Holarctic

Distribution: TER

Notes: Occasional Wintering. New Azores Record

Family Laridae

Anous stolidus (Linnaeus, 1758)

Native status: Pantropical

Distribution: FLO

Notes: Occasional Migrant.

Chlidonias niger niger (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO; TER; SMG*

Notes: Occasional Migrant.

Chlidonias niger surinamensis (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; TER; SMG*

Notes: Occasional Migrant.

Chlidonias hybrida (Pallas, 1811)

Native status: Palearctic

Distribution: TER; SMG; SMR

Notes: Occasional Migrant.

Chlidonias leucopterus (Temminck, 1815)

Native status: Palearctic

Distribution: TER; SMG; SMR*

Notes: Occasional Migrant.

Chroicocephalus philadelphia (Ord, 1815)

Native status: Nearctic

Distribution: FAI; PIC; TER; SMG

Notes: Occasional Migrant.

Chroicocephalus ridibundus (Linnaeus, 1766)

Native status: Palearctic

Conservation status: A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Gelochelidon nilotica (Gmelin, 1789)

Native status: Holarctic

Distribution: PIC; TER; SMG

Notes: Occasional Migrant.

Hydrocoloeus minutus (Pallas, 1776)

Native status: Palearctic

Distribution: FAI; SMG; SMR

Notes: Occasional Migrant.

Hydroprogne caspia (Pallas, 1770)

Native status: Holarctic

Distribution: FLO; TER; SMG*

Notes: Occasional Migrant.

Ichthyaetus audouinii (Payraudeau, 1826)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Ichthyaetus melanocephalus (Temminck, 1820)

Native status: Palearctic

Distribution: FAI; PIC*; TER; SMG

Notes: Occasional Migrant; Occasional Wintering.

Larus argentatus Pontoppidan, 1763

Native status: Palearctic

Distribution: FLO; FAI; TER; SMG

Notes: Occasional Migrant.

Larus canus brachyrhynchus Richardson, 1831

Native status: Nearctic

Distribution: TER

Notes: Occasional Wintering.

Larus canus canus (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; PIC; TER; SMG

Notes: Occasional Wintering.

Larus delawarensis Ord, 1815

Native status: Nearctic

Conservation status: A

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Wintering.

Larus fuscus Linnaeus, 1758

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Larus glaucoides glaucoides Meyer, 1822

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; TER; SMG

Notes: Occasional Wintering.

Larus glaucoides kumlieni Brewster, 1883

Native status: Nearctic

Distribution: FLO; TER*; SMG; SMR*

Notes: Occasional Wintering.

Larus hyperboreus Gunnerus, 1767

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Wintering.

Larus marinus Linnaeus, 1758

Native status: Holarctic

Conservation status: A-IIB; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Wintering.

Larus michahellis atlantis Dwight, 1922

Native status: Palearctic

Conservation status: P; A-IIB; AEWA

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Larus michahellis michahellis Naumann, 1840

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Larus smithsonianus Coues, 1862

Native status: Nearctic

Distribution: COR*; FLO; FAI; PIC; SJG*; TER; SMG

Notes: Occasional Wintering.

Leucophaeus atricilla (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Leucophaeus pipixcan (Wagler, 1831)

Native status: Nearctic

Distribution: FLO; TER; SMG; SMR*

Notes: Occasional Migrant.

Onychoprion anaethetus melanopterus (Swainson, 1837)

Native status: Pantropical

Distribution: PIC; GRA (Occasional Breeder); SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Onychoprion fuscatus fuscatus (Linnaeus, 1766)

Native status: Tropical Atlantic

Conservation status: A; AEWA

Distribution: FAI*; GRA (Breeder); SJG*; TER*; SMG*; SMR

Notes: Native.

Rissa tridactyla (Linnaeus, 1758)

Native status: Holarctic

Conservation status: A; AEWA

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant; Regular Wintering.

Sterna dougallii dougallii Montagu, 1813

Native status: Holarctic

Conservation status: P; A-I; B-II; AEWA; O; T100

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Native.

Sterna forsteri Nuttall, 1834

Native status: Nearctic

Distribution: COR; FLO; TER; SMG*

Notes: Occasional Migrant.

Sterna hirundo hirundo Linnaeus, 1758

Native status: Holarctic

Conservation status: P; A-I; B-II; AEWA; T100

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Native.

Sterna paradisaea Pontoppidan, 1763

Native status: Holarctic

Distribution: COR; FLO; FAI; TER; SMG; SMR*

Notes: Occasional Migrant.

Sternula albifrons (Pallas, 1764)

Native status: Palearctic

Distribution: FLO; SMG

Notes: Occasional Migrant.

Thalasseus maximus (Boddaert, 1783)

Native status: Holarctic

Distribution: FLO; GRA; TER

Notes: Occasional Migrant.

Thalasseus sandvicensis (Latham, 1787)

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG

Notes: Occasional Migrant.

Xema sabini (Sabine, 1819)

Native status: Holarctic

Distribution: COR*; FLO; FAI; PIC*; GRA; SMG; SMR

Notes: Occasional Migrant.

Family Stercorariidae

Stercorarius longicaudus Vieillot, 1819

Native status: Holarctic

Distribution: FAI; PIC; GRA*; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Stercorarius maccormicki Saunders, 1893

Native status: Antarctic

Distribution: FLO*; FAI*; GRA*; SMG

Notes: Occasional Migrant.

Stercorarius parasiticus (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Stercorarius pomarinus (Temminck, 1815)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG*; TER; SMG; SMR

Notes: Regular Migrant.

Stercorarius skua (Brünnich, 1764)

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Regular Migrant.

Family Alcidae

Alca torda Linnaeus, 1758

Native status: Holarctic

Distribution: FAI; TER; SMG

Notes: Occasional Wintering.

Alle alle (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FAI; PIC; GRA; SJG; TER; SMG

Notes: Occasional Wintering.

Fratercula arctica (Linnaeus, 1758)

Native status: Holarctic

Distribution: FLO; FAI; PIC; GRA*; TER; SMG; SMR

Notes: Occasional Wintering.

Uria lomvia (Linnaeus, 1758)

Native status: Holarctic

Distribution: FLO*; FAI; PIC*; TER; SMG

Notes: Occasional Wintering.

Order Columbiformes

Family Columbidae

Columba livia (domestica) Gmelin, 1789

Native status: Palearctic

Conservation status: A-IIA

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Introduced.

Columba palumbus azorica Hartert, 1905

Native status: Palearctic

Conservation status: P; A-I

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Streptopelia decaocto (Frivaldszky, 1838)

Native status: Palearctic

Distribution: COR*; FAI*; PIC (Breeder); GRA*; TER (Breeder); SMG; SMR

Notes: Native.

Streptopelia turtur (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; TER; SMG; SMR*

Notes: Occasional Migrant.

Zenaida macroura (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant.

Order Cuculiformes

Family Cuculidae

Coccyzus americanus (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO; FAI; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Coccyzus erythropthalmus (Wilson, 1811)

Native status: Nearctic

Distribution: COR*; FLO; SMG

Notes: Occasional Migrant.

Cuculus canorus Linnaeus, 1758

Native status: Palearctic

Distribution: PIC*; SJG; TER*; SMG; SMR

Notes: Occasional Migrant.

Order Strigiformes

Family Tytonidae

Tyto alba (Scopoli, 1769)

Native status: Holarctic

Distribution: SMG

Notes: Occasional Migrant.

Family Strigidae

Asio flammeus (Pontoppidan, 1763)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG*; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Asio otus otus (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A; B-II

Distribution: COR*; FLO*; FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR*

Notes: Native.

Bubo scandiacus (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR*; FLO; FAI; PIC*; SJG*

Notes: Occasional Wintering.

Order Caprimulgiformes

Family Caprimulgidae

Caprimulgus europaeus Linnaeus, 1758

Native status: Palearctic

Distribution: COR*; GRA*; TER; SMG

Notes: Occasional Migrant.

Chordeiles minor (Forster, 1771)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; SJG; TER; SMG

Notes: Occasional Migrant.

Order Apodiformes

Family Apodidae

Apus affinis (Gray, 1830)

Native status: Afro-tropical

Distribution: SMR

Notes: Occasional Migrant.

Apus apus (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO; FAI; GRA; TER; SMG; SMR

Notes: Occasional Migrant.

Apus pallidus (Shelley, 1870)

Native status: Palearctic

Distribution: FLO*; SMG

Notes: Occasional Migrant.

Chaetura pelagica (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO; FAI; TER; SMG

Notes: Occasional Migrant.

Tachymarptis melba (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FAI*; TER*; SMG; SMR*

Notes: Occasional Migrant.

Order Coraciiformes

Family Caoraciidae

Coracias garrulus Linnaeus, 1758

Native status: Palearctic

Distribution: SMG; SMR

Notes: Occasional Migrant.

Family Alcedinidae

Alcedo atthis (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMR

Notes: Occasional Migrant.

Megaceryle alcyon (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO; FAI; PIC; GRA; SJG; TER*; SMR*

Notes: Occasional Migrant; Occasional Wintering.

Family Meropidae

Merops apiaster Linnaeus, 1758

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Order Bucerotiformes

Family Upupidae

Upupa epops Linnaeus, 1758

Native status: Palearctic

Distribution: FLO; PIC*; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Order Piciformes

Family Picidae

Colaptes auratus (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FAI

Notes: Occasional Migrant. New Azores Record

Sphyrapicus varius (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant.

Order Falconiformes

Family Falconidae

Falco amurensis Radde, 1863

Native status: Palearctic

Distribution: PIC

Notes: Occasional Migrant. New Azores Record

Falco columbarius Linnaeus, 1758

Native status: Holarctic

Distribution: COR; FLO; TER; SMG; SMR*

Notes: Occasional Migrant.

Falco eleonorae Géné, 1839

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant. New Azores Record

Falco naumanni Fleischer, 1818

Native status: Palearctic

Distribution: SMG; SMR*

Notes: Occasional Migrant.

Falco peregrinus Tunstall, 1771

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC*; GRA; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Falco rusticolus Linnaeus, 1758

Native status: Holarctic

Distribution: AZO

Notes: Occasional Migrant. New Azores Record

Falco sparverius Linnaeus, 1758

Native status: Nearctic

Distribution: TER; SMG

Notes: Occasional Migrant.

Falco subbuteo Linnaeus, 1758

Native status: Palearctic

Distribution: COR; SMG*

Notes: Occasional Migrant.

Falco tinnunculus Linnaeus, 1758

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; GRA; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Falco vespertinus Linnaeus, 1766

Native status: Palearctic

Distribution: COR*; FLO; FAI; PIC; TER*; SMG; SMR*

Notes: Occasional Migrant.

Order Psittaciformes

Family Psittacidae

Psittacula krameri (Scopoli, 1769)

Native status: Afro-tropical

Distribution: FAI*; TER*; SMG (Breeder)

Notes: Introduced.

Order Passeriformes

Family Laniidae

Lanius collurio Linnaeus, 1758

Native status: Palearctic

Distribution: COR

Notes: Occasional Migrant.

Lanius senator Linnaeus, 1758

Native status: Palearctic

Distribution: SMG; SMR

Notes: Occasional Migrant. New Azores Record

Lanius excubitor borealis Vieillot, 1808

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Family Vireoidae

Vireo flavifrons Vieillot, 1808

Native status: Nearctic

Distribution: COR; SMG

Notes: Occasional Migrant.

Vireo griseus (Boddaert, 1783)

Native status: Nearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Vireo olivaceus (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO; FAI*; TER*

Notes: Occasional Migrant.

Vireo philadelphicus (Cassin, 1851)

Native status: Nearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Family Oriolidae

Oriolus oriolus (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR*; FLO; SMG

Notes: Occasional Migrant.

Family Corvidae

Coloeus monedula (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Corvus corone corone Linnaeus, 1758

Native status: Palearctic

Distribution: PIC; TER; SMG

Notes: Occasional Migrant.

Corvus frugilegus Linnaeus, 1758

Native status: Palearctic

Distribution: SMG; SMR

Notes: Occasional Migrant.

Family Bombycillidae

Bombycilla cedrorum Vieillot, 1808

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant. New Azores Record

Bombycilla garrulus (Linnaeus, 1758)

Native status: Holarctic

Distribution: FAI

Notes: Occasional Migrant.

Family Alaudidae

Alauda arvensis Linnaeus, 1758

Native status: Palearctic

Distribution: COR; FLO; FAI; TER*; SMG; SMR

Notes: Occasional Migrant.

Calandrella brachydactyla (Leisler, 1814)

Native status: Palearctic

Distribution: SJG; SMR*

Notes: Occasional Migrant.

Galerida cristata (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Family Hirundinidae

Cecropis daurica (Laxmann, 1769)

Native status: Palearctic

Distribution: COR*; FAI; SJG; SMG*

Notes: Occasional Migrant.

Delichon urbicum (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG*; TER; SMG; SMR

Notes: Occasional Migrant.

Hirundo rustica erythrogaster Boddaert, 1783

Native status: Nearctic

Distribution: COR; FLO; TER

Notes: Occasional Migrant.

Hirundo rustica rustica Linnaeus, 1758

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC*; GRA; TER; SMG; SMR

Notes: Occasional Migrant.

Petrochelidon pyrrhonota (Vieillot, 1817)

Native status: Nearctic

Distribution: COR; TER

Notes: Occasional Migrant.

Progne subis (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant.

Riparia paludicola (Vieillot, 1817)

Native status: Palearctic

Distribution: SMR

Notes: Occasional Migrant. New Azores Record

Riparia riparia (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR*; FLO; PIC; TER; SMG; SMR

Notes: Occasional Migrant.

Tachycineta bicolor (Vieillot, 1808)

Native status: Nearctic

Distribution: COR; FLO; SMG

Notes: Occasional Migrant.

Family Phylloscopidae

Phylloscopus collybita (Vieillot, 1817)

Native status: Palearctic

Distribution: COR; FLO; FAI; PIC; GRA*; TER; SMG; SMR

Notes: Occasional Migrant.

Phylloscopus inornatus (Blyth, 1842)

Native status: Palearctic

Distribution: PIC*; SMG

Notes: Occasional Migrant.

Phylloscopus trochilus (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; SJG; TER*; SMG

Notes: Occasional Migrant.

Family Acrocephalidae

Acrocephalus schoenobaenus (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; TER

Notes: Occasional Migrant. New Azores Record

Acrocephalus agricola (Jerdon, 1845)

Native status: Palearctic

Distribution: COR

Notes: Occasional Migrant.

Family Locustellidae

Locustella naevia (Boddaert, 1783)

Native status: Palearctic

Distribution: FLO

Notes: Occasional Migrant. New Azores Record

Family Sylviidae

Hippolais polyglotta (Vieillot, 1817)

Native status: Palearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Regulus regulus azoricus Seebohm, 1883

Native status: Palearctic

Conservation status: P; A; B-II

Distribution: SMG (Breeder)

Notes: Azores Endemic.

Regulus regulus inermis Murphy & Chapin, 1929

Native status: Palearctic

Conservation status: P; A; B-II

Distribution: FLO; FAI; PIC; GRA; SJG; TER

Notes: Azores Endemic.

Regulus regulus sanctaemariae Vaurie, 1954

Native status: Palearctic

Conservation status: P; A; B-II

Distribution: SMR (Breeder)

Notes: Azores Endemic.

Sylvia atricapilla gularis Alexander, 1898

Native status: Palearctic

Conservation status: A; B-II

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Sylvia borin (Boddaert, 1783)

Native status: Palearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Sylvia cantillans (Pallas, 1764)

Native status: Palearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Sylvia nisoria (Bechstein, 1792)

Native status: Palearctic

Distribution: FLO

Notes: Occasional Migrant. New Azores Record

Sylvia communis Latham, 1787

Native status: Palearctic

Distribution: TER

Notes: Occasional Migrant. New Azores Record

Family Troglodytidae

Troglodytes troglodytes (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Family Mimidae

Dumetella carolinensis (Linnaeus, 1766)

Native status: Nearctic

Distribution: FLO

Notes: Occasional Migrant. New Azores Record

Family Sturnidae

Sturnus vulgaris granti Hartert, 1903

Native status: Palearctic

Conservation status: A-IIB

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Family Turdidae

Catharus guttatus (Pallas, 1811)

Native status: Nearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Catharus minimus (Lafresnaye, 1848)

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant.

Catharus ustulatus (Nuttall, 1840)

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant. New Azores Record

Hylocichla mustelina (Gmelin, 1789)

Native status: Nearctic

Distribution: COR*; SMG

Notes: Occasional Migrant.

Turdus iliacus Linnaeus, 1758

Native status: Palearctic

Distribution: SMG; SMR

Notes: Occasional Migrant.

Turdus merula azorensis Hartert, 1905

Native status: Palearctic

Conservation status: A-IIB

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Turdus migratorius Linnaeus, 1766

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Turdus naumanni Temminck, 1820

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Turdus philomelos Brehm, 1831

Native status: Palearctic

Distribution: SMG; SMR

Notes: Occasional Migrant.

Turdus pilaris Linnaeus, 1758

Native status: Palearctic

Distribution: COR; FLO; PIC*; GRA; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Turdus torquatus Linnaeus, 1758

Native status: Palearctic

Distribution: COR; SMG*; SMR*

Notes: Occasional Migrant.

Turdus viscivorus Linnaeus, 1758

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Family Muscicapidae

Erithacus rubecula rubecula (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A; B-II

Distribution: FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Native.

Ficedula hypoleuca (Pallas, 1764)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Ficedula parva (Bechstein, 1792)

Native status: Palearctic

Distribution: TER

Notes: Occasional Migrant.

Muscicapa striata (Pallas, 1764)

Native status: Palearctic

Distribution: COR; FLO; SMR

Notes: Occasional Migrant. New Azores Record

Oenanthe oenanthe leucorhoa (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; FLO; FAI; PIC; GRA; SJG; TER; SMG; SMR

Notes: Occasional Migrant.

Oenanthe hispanica (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A; B-II

Distribution: FLO; SMR

Notes: Occasional Migrant.

Oenanthe isabellina (Temminck, 1829)

Native status: Palearctic

Distribution: FLO

Notes: Occasional Migrant.

Phoenicurus ochruros (Gmelin, 1774)

Native status: Palearctic

Distribution: TER*; SMG; SMR

Notes: Occasional Migrant.

Phoenicurus phoenicurus (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR* (Occasional Breeder); FLO; PIC; SMG

Notes: Occasional Migrant; Occasional Wintering.

Saxicola rubetra (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR*; FLO; SJG; SMG

Notes: Occasional Migrant.

Saxicola rubicola (Linnaeus, 1766)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Family Passeridae

Passer domesticus domesticus (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Introduced.

Petronia petronia (Linnaeus, 1766)

Native status: Palearctic

Distribution: TER; SMG

Notes: Occasional Migrant.

Family Estrildidae

Estrilda astrild (Linnaeus, 1758)

Native status: Afro-tropical

Distribution: TER (Breeder); SMG (Breeder)

Notes: Introduced.

Family Motacillidae

Anthus campestris (Linnaeus, 1758)

Native status: Palearctic

Distribution: SMG

Notes: Occasional Migrant.

Anthus cervinus (Pallas, 1811)

Native status: Palearctic

Distribution: COR; TER*; SMG; SMR*

Notes: Occasional Migrant.

Anthus pratensis (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO; TER

Notes: Occasional Migrant.

Anthus rubescens rubescens (Tunstall, 1771)

Native status: Nearctic

Distribution: COR; FLO*; PIC; TER; SMG; SMR

Notes: Occasional Wintering.

Anthus trivialis (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; TER

Notes: Occasional Migrant. New Azores Record

Motacilla alba alba Linnaeus, 1758

Native status: Palearctic

Distribution: COR*; FLO; GRA; TER; SMG; SMR

Notes: Occasional Migrant.

Motacilla cinerea patriciae Vaurie, 1957

Native status: Palearctic

Conservation status: A; B-II

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Motacilla citreola Pallas, 1776

Native status: Palearctic

Distribution: COR; SMR*

Notes: Occasional Migrant.

Motacilla flava Linnaeus, 1758

Native status: Palearctic

Distribution: COR; PIC; TER*; SMG; SMR

Notes: Occasional Migrant.

Family Fringillidae

Acanthis flammea (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; FLO; SMG

Notes: Occasional Migrant.

Acanthis hornemanni (Holböll, 1843)

Native status: Holarctic

Distribution: COR

Notes: Occasional Migrant.

Carduelis carduelis parva Tschusi, 1901

Native status: Palearctic

Conservation status: A; B-II

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Macaronesian Endemic.

Chloris chloris aurantiiventris (Cabanis, 1851)

Native status: Palearctic

Conservation status: A; B-II

Distribution: FAI*; PIC*; TER (Breeder); SMG (Breeder); SMR*

Notes: Introduced.

Fringilla coelebs moreletti Pucheran, 1859

Native status: Palearctic

Conservation status: A

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Azores Endemic.

Fringilla montifringilla Linnaeus, 1758

Native status: Palearctic

Distribution: SMR

Notes: Occasional Wintering. New Azores Record

Linaria cannabina (Linnaeus, 1758)

Native status: Palearctic

Distribution: TER*; SMG

Notes: Occasional Migrant.

Linaria flavirostris (Linnaeus, 1758)

Native status: Palearctic

Distribution: FLO

Notes: Occasional Migrant. New Azores Record

Loxia curvirostra Linnaeus, 1758

Native status: Holarctic

Distribution: SMG

Notes: Occasional Migrant.

Pyrrhula murina Godman, 1866

Native status: Palearctic

Conservation status: P; A-I; T100

Distribution: SMG (Breeder)

Notes: Azores Endemic.

Serinus canaria (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A

Distribution: COR (Breeder); FLO (Breeder); FAI (Breeder); PIC (Breeder); GRA (Breeder); SJG (Breeder); TER (Breeder); SMG (Breeder); SMR (Breeder)

Notes: Macaronesian Endemic.

Serinus serinus (Linnaeus, 1766)

Native status: Palearctic

Distribution: TER

Notes: Occasional Migrant.

Spinus spinus (Linnaeus, 1758)

Native status: Palearctic

Distribution: COR; FLO; SMG

Notes: Occasional Migrant; Occasional Wintering.

Family Parulidae

Cardellina canadensis (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant.

Geothlypis trichas (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant.

Leiothlypis peregrina (Wilson, 1811)

Native status: Nearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Mniotilta varia (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Parkesia noveboracensis (Gmelin, 1789)

Native status: Nearctic

Distribution: COR*; SMG*; SMR

Notes: Occasional Migrant.

Setophaga americana (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Seiurus aurocapilla (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO*; TER

Notes: Occasional Migrant.

Setophaga caerulescens (Gmelin, 1789)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant.

Setophaga citrina (Boddaert, 1783)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant.

Setophaga coronata (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO; SMG

Notes: Occasional Migrant.

Setophaga discolor (Vieillot, 1809)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Setophaga dominica (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Setophaga magnolia (Wilson, 1811)

Native status: Nearctic

Distribution: COR*; FLO

Notes: Occasional Migrant.

Setophaga pensylvanica (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant.

Setophaga petechia (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO; SMG; SMR*

Notes: Occasional Migrant.

Setophaga ruticilla (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO*

Notes: Occasional Migrant.

Setophaga striata (Forster, 1772)

Native status: Nearctic

Distribution: COR; FLO; SMG

Notes: Occasional Migrant.

Setophaga virens (Gmelin, 1789)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant.

Vermivora chrysoptera (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Vermivora cyanoptera Olson & Reveal, 2009

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Family Icteridae

Dolichonyx oryzivorus (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO; SMR*

Notes: Occasional Migrant.

Icterus galbula (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR; FLO; SMR*

Notes: Occasional Migrant.

Family Emberizidae

Emberiza rustica Pallas, 1776

Native status: Palearctic

Distribution: SMR

Notes: Occasional Migrant. New Azores Record

Junco hyemalis (Linnaeus, 1758)

Native status: Nearctic

Distribution: FLO

Notes: Occasional Migrant.

Melospiza lincolnii (Audubon, 1834)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant. New Azores Record

Passerculus sandwichensis (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant.

Passerina cyanea (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO; SMR*

Notes: Occasional Migrant.

Zonotrichia albicollis (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; SMR*

Notes: Occasional Migrant. New Azores Record

Zonotrichia leucophrys (Forster, 1772)

Native status: Nearctic

Distribution: COR; FLO; SMR*

Notes: Occasional Migrant.

Family Calcariidae

Calcarius lapponicus (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; FLO; TER; SMG

Notes: Occasional Migrant.

Plectrophenax nivalis (Linnaeus, 1758)

Native status: Holarctic

Distribution: COR; FLO; FAI; PIC; GRA; TER; SMG; SMR

Notes: Occasional Migrant; Occasional Wintering.

Family Cardinalidae

Pheucticus ludovicianus (Linnaeus, 1766)

Native status: Nearctic

Distribution: COR; FLO; SMG; SMR*

Notes: Occasional Migrant.

Piranga olivacea (Gmelin, 1789)

Native status: Nearctic

Distribution: COR; FLO

Notes: Occasional Migrant.

Piranga rubra (Linnaeus, 1758)

Native status: Nearctic

Distribution: COR

Notes: Occasional Migrant.

Spiza americana (Gmelin, 1789)

Native status: Nearctic

Distribution: COR*; FLO; SMR*

Notes: Occasional Migrant.

List of potential breeding species from Azores

Phylum Chordata

Subphylum Vertebrata

Class Aves

Order Anseriformes

Family Anatidae

Aix galericulata (Linnaeus, 1758)

Native status: Palearctic

Distribution: PIC*; GRA; TER; SMG

Notes: Occasional Migrant.

Order Galliformes

Family Numididae

Numida meleagris (Linnaeus, 1758)

Native status: Afro-tropical

Distribution: SMG

Notes: Introduced.

Family Odontophoridae

Colinus virginianus (Linnaeus, 1758)

Native status: Nearctic

Distribution: FAI

Notes: Introduced.

Family Phasianidae

Perdix perdix (Linnaeus, 1758)

Native status: Palearctic

Conservation status: A-IIA

Distribution: SMG

Notes: Introduced.

Phasianus colchicus Linnaeus, 1758

Native status: Palearctic

Distribution: AZO

Notes: Introduced.

Order Passeriformes

Family Corvidae

Cyanocitta cristata (Linnaeus, 1758)

Native status: Nearctic

Distribution: SMG

Notes: Introduced.

Family Estrildidae

Estrilda troglodytes (Lichtenstein, 1823)

Native status: Afro-tropical

Distribution: SMG

Notes: Introduced.

Family Fringillidae

Crithagra mozambica (Müller, 1776)

Native status: Afro-tropical

Distribution: TER

Notes: Introduced.

Analysis

The updated list of the bird species recorded in the Azores comprised 38 newly recorded species, increasing the total number of recorded species and subspecies to 414. These 414 taxa belong to 24 orders, 67 families, 202 genera and 404 species. Some of the species and genus names from the previous list were changed and some families were moved to other orders. The taxonomic revision results in the addition of four new orders to the checklist.

São Miguel Island stands out as the richest island (299 spp. and sspp.), followed by Terceira (248 spp. and sspp.), Corvo and Flores (238 and 232 spp. and sspp., respectively) (Fig. 4). The islands of Corvo (western group) and Santa Maria (eastern group) were the ones with the highest increases in species number (plus 14,1% and 12,%, respectively).

Almost half of the species and subspecies that occur in the Azores come from the Palearctic (n = 195, that is, 47% of spp and sspp) but the Nearctic is also well represented (n = 125 i.e., 30% of spp and sspp). The species and subspecies of Holarctic origin totalled 68 (i.e., 17% of spp and sspp) (Fig. 5). The Passeriformes (songbirds), Charadriiformes

(waders, skuas, gulls, terns and auks) and Anseriformes (swans, geese and ducks) are by far the most represented orders with 129, 111 and 42 taxa, respectively.

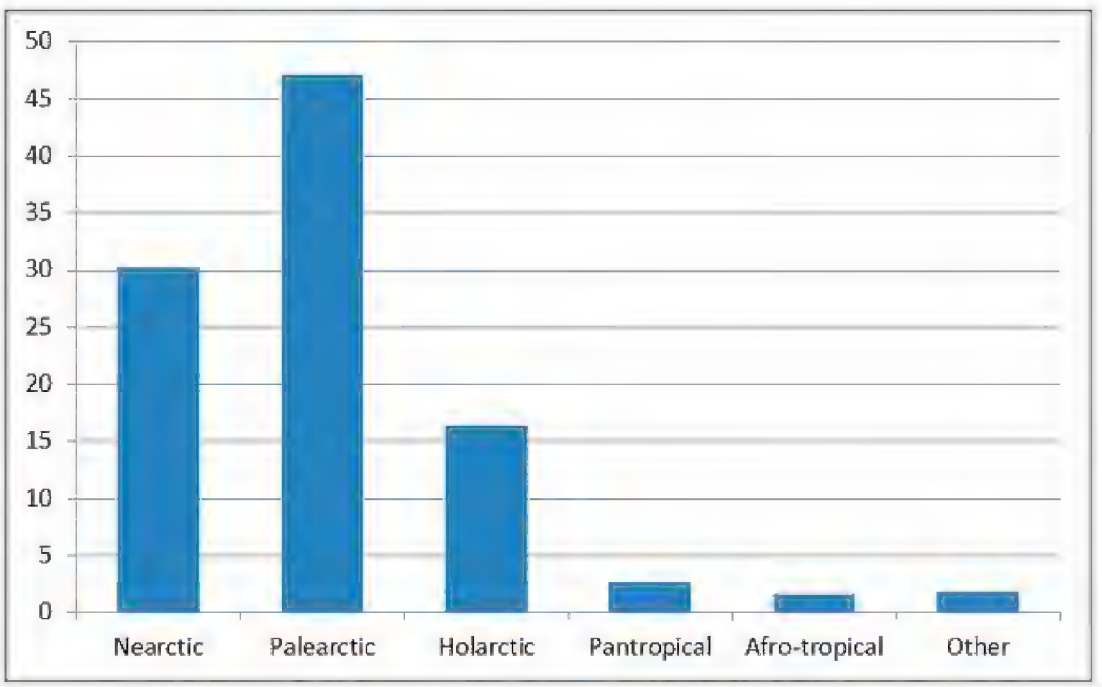

Figure 5.

Biogeographical origin of the species present in Azores archipelago; “Other” – marine regions (Indo-Pacific; Southern Atlantic; Sub-Antarctic; Antarctic; Tropical Atlantic) (Suppl. material 2).

Discussion

The most striking feature of this checklist is that it shows not only an impressive increase in the number of new species records for the Azores (36, that is, plus 8,7% in less than five years), but also an enlargement of the distribution of several species among the different Azorean islands. A simple explanation for this could be the increase in the number of observers performing birdwatching out of the “high season” (autumn and spring) for vagrant birds, and possibly also the creation of the “Aves dos Açores” website, whose aim is to provide information about all common species and also about rarities, even though is mostly aimed at a non-birdwatcher public.

The situation of the Azores in the middle of the North Atlantic makes these islands a safe place for the birds taken away from their normal migratory routes by strong winds or by changes in wind direction (vagrants) (Liechti 2006). Vagrant birds have been observed using trans-oceanic ships to rest until they detect a landmass at close range and usually fly towards it (Lees and Gilroy 2009). The higher number of Nearctic species reported on Corvo Island could be related to the relative proximity of this island to the American continent, allowing birds to wander into it. Another explanation for this may be the combination of a very small area (17 km2) and the high observation pressure during the autumn, when several tens of birdwatchers visit the island. On the opposite side of the archipelago, Santa Maria Island, the closest island to the European continent, holds a higher proportion of Palearctic species. The comparatively low number of non-breeding

species observed on Graciosa and São Jorge islands may be explained, at least partly, by a lower observation pressure than on the other islands.

The native birds from the Azores provide good examples of insular speciation, since two endemic species and 11 endemic subspecies are known. Moreover, many more endemic terrestrial species have gone extinct (Rando et al. 2013, Alcover et al. 2015), possibly as a consequence of direct predation by man, the introduction of non-native predatory species (e.g., cats, rats, ferrets and weasels), and habitat degradation or loss. The current endemic species and subspecies are the survivors of almost 600 years of human occupation and major land-use changes. The recent population recovery of the Azores Bullfinch (Fig. 2) in the north-eastern part of São Miguel is considered as a good example of the best practices of LIFE conservation programs (Ceia et al. 2010). Another example of successful conservation measures comes from the rabbit eradication and habitat restoration on Praia islet (Graciosa Island), which resulted in a significant increase in the breeding numbers of Monteiro's Storm-petrels, Madeiran Storm-petrels and terns (Bolton et al. 2004, Bried et al. 2009, Bried and Neves *in press*).

Species lists such as this one are important to draw attention to particular taxonomic groups, to serve as a baseline in long-term systematic monitoring, to elucidate patterns of species diversity and distribution, to elucidate information gaps about distribution, and can serve as a tool in educational projects. The currently ongoing initiatives concerning citizen ornithological science in the Azores will be of high value for the knowledge of the biology and phenology of migratory birds and will hopefully increase the pressure towards the definition and preservation of more Important Bird Areas (IBAs) in the archipelago.

Acknowledgements

We wish to acknowledge the work of countless volunteer scientists and amateur birdwatchers who are contributing to the knowledge of bird distribution in the Azores.

We also thank two anonymous referees for their constructive comments.

Author contributions

Luís Barcelos, Pedro Rodrigues, Joël Bried led the writing, performed research and contributed equally to this paper; PAVB and RG designed research and helped in writing. LB and EM collected the data; LB, EM and PB analyzed data.

References

- Alcover JA, Pieper H, Pereira F, Rando JC (2015) Five new extinct species of rails (Aves: Gruiformes: Rallidae) from the Macaronesian Islands (North Atlantic Ocean). Zootaxa.

- Amorim I (2005) Colonization and diversification on oceanic islands: forest *Tarphius* and cave-dwelling *Trechus* beetles of the Azores. University of California, Los Angeles, 282 pp. [In English].
- Aves dos Açores (2014) Noticias dos Açores. http://azores.avesdeportugal.info/. Accession date: 2014 12 31.
- Azores Bird Club. (2014) Birding Azores Database - Year lists 2005-2012. http://www.birdingazores.com/. Accession date: 2014 12 31.
- Azores Bird Sightings (2014) Lastest Sightings and Archived Sightings. http://azoresbs.weebly.com/. Accession date: 2014 5 30.
- Barreiros J, Elias R, Gabriel R, Rodrigues P, Barcelos L, Branco J, Borges PV (2014) The Yellow-crowned Night Heron *Nyctanassa violacea* (Aves : Pelecaniformes : Ardeidae) in the Azores and Madeira Archipelagos : a new species for the Western Palearctic. Arquipélago - Life and Marine Sciences 31: 37-43.
- Bolton M, Medeiros R, Hothersall B, Campos A (2004) The use of artificial breeding chambers as a conservation measure for cavity-nesting procellariiform seabirds: A case study of the Madeiran storm petrel (*Oceanodroma castro*). Biological Conservation 116 (1): 73-80. DOI: 10.1016/S0006-3207(03)00178-2
- Bolton M, Smith A, Gómez-Díaz E, Friesen V, Medeiros R, Bried J, Roscales J, Furness R (2008) Monteiro's Storm-petrel *Oceanodroma monteiroi*: A new species from the Azores. Ibis 150 (4): 717-727. DOI: 10.1111/j.1474-919X.2008.00854.x
- Borges PAV, Costa A, Cunha R, Gabriel R, Gonçalves V, Martins AF, Melo I, Parente M, Raposeiro P, Rodrigues P, Santos RS, Silva L, Vieira P, Vieira V (2010) Listagem dos Organismos Terrestres e Marinhos dos Açores. Principia, Cascais, 432 pp. [ISBN 9789898131751]
- Bried J, Neves V (in press) Habitat restoration on Praia islet, Azores archipelago, proved successful for seabirds, but new threats have emerged. Airo.
- Bried J, Geraldes P, Paiva V (2007) First attempted breeding of Manx Shearwater (*Puffinus puffinus* Brünnich, 1764) on Santa Maria, Azores. Arquipélago - Life and Marine Sciences 24: 61-63.
- Bried J, Magalhães M, Bolton M, Neves V, Bell E, Pereira J, Aguiar L, Monteiro L, Santos R (2009) Seabird Habitat restoration on praia islet, Azores Archipelago. Ecological Restoration 27 (1): 27-36. DOI: 10.3368/er.27.1.27
- Ceia R, Sampaio H, Parejo S, Heleno R, Arosa M, Ramos J, Hilton G (2010) Throwing the baby out with the bathwater: Does laurel forest restoration remove a critical winter food supply for the critically endangered Azores bullfinch? Biological Invasions 13 (1): 93-104. DOI: 10.1007/s10530-010-9792-x
- Elias G, Costa H, Matias R, Moore CC, Tomé R (2004) Relatório do Comité Português de Raridades referente aos anos de 2002. Anuário Ornitológico 2: 1-20.
- Elias G, Costa H, Matias R, Moore CC, Tomé R (2005) Relatório do Comité Português de Raridades referente aos anos de 2003. Anuário Ornitológico 3: 1-21.
- Elias G, Costa H, Matias R, Moore CC, Tomé R (2006) Relatório do Comité Português de Raridades referente aos anos de 2004. Anuário Ornitológico 4: 1-15.
- Elias G, Costa H, Matias R, More CC, Tomé R (2003) Relatório do Comité Português de Raridades referente aos anos de 1999, 2000 e 2001. Anuário Ornitológico 1: 3-35.
- Elphick C, Roberts D, Michael Reed J (2010) Estimated dates of recent extinctions for North American and Hawaiian birds. Biological Conservation 143 (3): 617-624. DOI: 10.1016/j.biocon.2009.11.026

- França Z, Cruz J, Nunes JC, Forjaz VH (2003) Geologia dos Açores: uma perspectiva actual. Açoreana 10: 11-140.
- Frutuoso G (2005a) Livro sexto das saudades da terra. (1589). (Volume VI). Instituto Cultural de Ponta Delgada, Ponta Delgada, 169 pp.
- Frutuoso G (2005b) Livro quarto das saudades da terra. (1589). (Volume IV). Instituto Cultural de Ponta Delgada, Ponta Delgada, 554 pp.
- Frutuoso G (2005c) Livro terceiro das saudades da terra. (1589). (Volume III). Instituto Cultural de Ponta Delgada, Ponta Delgada, 121 pp.
- Gill F, Donsker D (Eds) (2015) IOC World Bird List v5.3. IOC, na pp. URL: http://www.worldbirdnames.org/ DOI: 10.14344/IOC.ML.5.3
- Governo dos Açores (2012) Regime Jurídico da Conservação da Natureza e da Proteção da Biodiversidade. Decreto Legislativo Regional 15/2012/A de 2 de Abril. I Série-A, 66. Diário da República, 88 pp.
- Imber MJ (2008) Kermadec Petrels (*Pterodroma neglecta*) off the Azores, North Atlantic Ocean. Notornis 55 (2): 106-108.
- Jara J, Costa H, Elias G, Matias R, Moore CC, Tomé R (2007) Aves de occorência rara ou acidental em Portugal. Relatório do Comité Português de Raridades referente ao ano de 2005. Anuário Ornitológico 5: 1-45.
- Jara J, Costa H, Matias R, Moore CC, Noivo C, Tipper R (2008) Aves de occorência rara ou acidental em Portugal. Relatório do Comité Português de Raridades referente aos anos de 2006 e 2007. Anuário Ornitológico 6: 1-45.
- Lees A, Gilroy J (2009) Vagrancy mechanisms in passerines and near-passerines. Rare birds, where and when: An analysis of status and distribution in Britain and Irland. 1. York, 22 pp.
- Le Grand G (1993) Recherches sur l'écologie des Vertébrés terrestres de l'archipel des Açores. 350 pp.
- Liechti F (2006) Birds: Blowin' by the wind? Journal of Ornithology 147 (2): 202-211. DOI: 10.1007/s10336-006-0061-9
- Lomolino M, Riddle B, Whittaker R, Brown J (2010) Biogeography. 4. Sinauer Associates, Inc., Sunderland, 878 pp. [ISBN 978-0-87893-494-2]
- Martín JL, Arechavaleta M, Borges PA, Faria B (2008) TOP 100 - As cem espécies ameaçadas prioritárias em termos de gestão na região europeia biogeográfica da Macaronésia. Consejería de Medio Ambiente y Ordenación Territorial, Gobierno de Canarias., 500 pp.
- Monteiro LR, Ramos JA, Furness RW (1996) Past and present status and conservation of the seabirds breeding in the Azores archipelago. Biological Conservation 78 (3): 319-328. DOI: 10.1016/S0006-3207(96)00037-7
- Monteiro LR, Ramos JA, Pereira JC, Monteiro PR, Feio RS, Thompson DR, Bearshop S, Furness RW, Laranjo M, Hilton G, Neves VC, Groz MP, Thompson KR (1999) Status and distribution of Fea's Petrel, Bulwer's Petrel, Manx Shearwater, Little Shearwater and Band-rumped Storm-Petrel in the Azores Archipelago. Waterbirds 22 (3): 358-366.
- Pereira C (2010) Aves dos Açores. SPEA - Sociedade Portuguesa para o Estudo das Aves , 128 pp. [ISBN 978-989-8259-02-8]
- Rando J, Alcover J, Olson S, Pieper H (2013) A new species of extinct scops owl (Aves: Strigiformes: Strigidae: *Otus*) from São Miguel island (Azores archipelago, north Atlantic ocean). Zootaxa 3647 (2): 343-357. DOI: 10.11646/zootaxa.3647.2.6

- Rodebrand S (2010) Checklist of the birds of Azores including 2009. http://www.birdingazores.com/lists/2009azoresbirdlists.xls. Accession date: 2010 4 14.
- Rodebrand S. & The Birding Azores Team (2010) Recent Sightings. http://www.birdingazores.com. Accession date: 2010 4 14.
- Rodrigues P, Cunha R (2011) Azorean Birds - A natural Heritage. Açoreana 319-330.
- Rodrigues P, Cunha RT (2012) Birds as a Tool for Island Habitat Conservation and Management. American Journal of Environmental Sciences 8 (1): 5-10.
- Rodrigues P, Michielsen G (2010) Observação de Aves nos Açores. Artes e Letras, Ponta Delgada, 164 pp. [ISBN 978-989-95453-4-2]
- Rodrigues P, Bried J, Medeiros F, Cunha R (2010) List of Vertebrates (Chordata) Aves. A list of the terrestrial and marine biota from the Azores. Borges PAV. Princípia, Cascais, 429 pp. [ISBN 978-989-8131-75-1].
- Sax D, Gaines S, Brown J (2002) Species Invasions Exceed Extinctions on Islands Worldwide: A Comparative Study of Plants and Birds. The American Naturalist 160 (6): 766-783.
- Vittery A (2014) Birds of Santa Maria – island of plovers. Author's edition, 171 pp. [ISBN 373168/14]

Supplementary materials

Suppl. material 1: Global species richness on the nine Azorean islands

Authors: Barcelos et al.
Data type: Species distribution
Brief description: Global species richness on the nine Azorean islands (COR= Corvo; FLO = Flores; FAI = Faial; PIC = Pico; GRA =Graciosa; SJG = São Jorge; TER = Terceira; SMG = São Miguel; SMR = Santa Maria).
Filename: Figure 4.xlsx - Download file (10.21 kb)

Suppl. material 2: Biogeographical origin of the species present in Azores archipelago

Authors: Barcelos et al.
Data type: occurences
Brief description: Biogeographical origin of the species present in Azores archipelago.
“Other” refers to marine regions only represented once (Indo-Pacific; Southern Atlantic; Sub-Antarctic; Antarctic; Tropical Atlantic).
Filename: Figure 5.xlsx - Download file (9.01 kb)

Suppl. material 3: List of Rare Species

Authors: Barcelos et al.
Data type: occurences
Brief description: Species with five or less records and individuals counts, in the Azores, with some notes.
Filename: Rare_Birds_List.xlsx - Download file (14.78 kb)